

REMARKS

In light of the above amendments and following remarks, reconsideration and allowance of this application are respectfully requested.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 29-36 and 44-51 are pending in this application. Claims 29-31, 33 and 35-51 are rejected and objected to in the Office Action. In this response, claims 29, 32-36, 44, and 47-51 have been amended, claims 30, 31, 45 and 46 have been cancelled and claims 52-55 have been added. No new subject matter has been added as a result of this amendment.

It is submitted that these claims are patentably distinct from the prior art cited by the Examiner, and that these claims are in full compliance with the requirements of 35 U.S.C. § 112. The remarks made herein are not made for the purpose of patentability within the meaning of 35 U.S.C. §§ 101, 102, 103 or 112, but rather the amendments and remarks made herein are simply for clarification and to round out the scope of protection to which Applicants are entitled.

Initially, the Examiner is thanked for indicating that claims 32 and 34 contain allowable subject matter and would be allowed if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The specific subject matter deemed to be allowable relates to knitting the tapered end by gradually dropping knitting needles during the knitting of the tapered end and to braiding the tapered end by adjusting the speed of the take up relative to the speed of the fiber or yarn that is being braided.

The Examiner is also thanked for indicating that claims 30 and 31 contain allowable subject matter and would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, second paragraph, and to include all of the limitations of the base claim and any intervening claims. The specific subject matter deemed allowable relates to weaving of the tubular structure

with warp and weft fibers or yarns that form a tapered end by gradually eliminating warp fibers or yarns in a sequential manner to form the tapered end and weaving the tubular structure with warp fibers or yarns and forming the tapered end by drawing in the warp fibers or yarns as the tapered end is woven.

II. OBJECTIONS TO THE DRAWINGS

In numbered paragraph 1 of the Office Action, the Examiner objects to the drawings under 37 C.F.R. § 1.83(a) for not showing every feature of the invention specified in the claims.

Initially, Applicants respectfully submit that claims 30-32 and 34 are method claims and therefore drawings are not required to show the claimed features of the invention. Applicants respectfully further submit that the various methods used to create the tapered ends, i.e. gradually eliminating warp fibers or yarns during weaving, drawing in the warp fibers or yarns during weaving, gradually dropping knitting needles during knitting and braiding the tapered end by adjusting the speed of the take up in claims 30-32, 34, 45-47 and 49, would be readily appreciated and well known by one of ordinary skill of the art based upon the disclosure of this application.

As but one example, page 23, lines 16-23 of the application describes the formation of a taper using a tubular weaving process as, "[a] taper can be created by removing or eliminating warp yarns at the far edges of the loom in a sequential fashion as the fabric is woven. The warp yarns that are removed are tied off into the main structure." Accordingly, one of ordinary skill in the art would readily appreciate, based upon the disclosure of this application, the methods used to create a tapered end.

As a drawing is only required "where necessary for the understanding of the subject matter sought to be patented," 35 U.S.C. § 1.81(a), it is respectfully urged that a drawing is not

necessary for the understanding of the features of the instant invention cited by the Examiner and reconsideration and withdrawal these objections are respectfully requested.

III. CLAIM OBJECTIONS

In numbered paragraphs 2-6 of the Office Action, claims 29, 30-32, 34 and 45-50 are objected to for various reasons. As outlined in the amended claims above, the objections have been addressed and therefore reconsideration and withdrawal of the objections are respectfully requested.

In numbered paragraph 8 of the Office Action, claims 30, 31, 45 and 46 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim subject matter which Applicants regard as the invention. Claims 30, 31, 45 and 46 have been cancelled in this response.

In view of the amended and cancelled claims, it is respectfully urged that the claim objections be withdrawn.

IV. THE REJECTIONS UNDER 35 U.S.C. § 102(b)

In numbered paragraph 11 of the Office Action, claims 44 and 51 are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 2,997,973 to Hawthorne et al. ("Hawthorne"). The rejections are traversed for at least the following reasons.

Independent claim 44 has been amended to recite,

wherein the front end or the rear end of the tubular structure is formed by weaving warp and weft yarns or fibers in such a manner to have a taper that terminates in a second circumference that is less than the first circumference, wherein the tapered end is woven by gradually eliminating warp yarns or fibers in a sequential manner or wherein the tapered end is woven by drawing in the warp fibers or yarns during weaving.

(Emphasis added). Hawthorne fails to disclose a tubular structure having a tapered end that is woven by gradually eliminating warp yarns or fibers in a sequential manner or wherein the tapered end is woven by drawing in the warp fibers or yarns during weaving. Instead, Hawthorne teaches that the tube and the shaped ends are constructed by weaving in one piece as a continuous tube. Col. 1, lines 68-69. Hawthorne, however, fails to teach or suggest how the shaped ends are woven.

Further, it is respectfully pointed out that in order for a Section 102 rejection to stand, the prior art reference must contain all of the elements of the claimed invention. *See Lewmar Marine Inc. v. Barient Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987). Applying the law to the instant facts, the sections of Hawthorne relied upon by the Examiner in the Office Action do not provide for a tapered end of a woven tubular structure that has eliminated warp yarns or a tapered end having fibers or warp fibers or yarns that were drawn in during the weaving process.

For at least the foregoing reasons, it is respectfully submitted that amended independent claim 44 patentably distinguishes over Hawthorne and is therefore allowable. Further, claim 51 that depends from claim 44 is allowable therewith.

V. THE REJECTIONS UNDER 35 U.S.C. § 103(a)

In numbered paragraph 14 of the Office Action, claims 29 and 36 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hawthorne. The rejections are traversed for at least the following reasons.

As previously stated, in the Office Action the Examiner indicated that claims 30 and 31 contain allowable subject matter. Therefore, independent claim 29 has been amended to include the subject matter of claims 30 and 31, specifically,

weaving the front end or the rear end of the tubular structure with warp and weft fibers or yarns, having a taper that

terminates in a second circumference that is less than the first circumference, which includes one or more of the following steps of gradually eliminating warp yarns or fibers in a sequential manner as the tapered end is woven or drawing in the warp fibers or yarns as the tapered end is woven.

(Emphasis added). Therefore, it is submitted that claim 29 patentably distinguishes over Hawthorne and is allowable. Claim 36 that depends from claim 29 is allowable therewith.

In numbered paragraphs 15 and 18, claims 33, 35 and 44-50 are rejected under § 103(a) as allegedly being unpatentable over Hawthorne in view of U.S. Patent No. 6,021,915 to Shimozono et al. ("Shimozono") or in view of U.S. Patent No. 4,055,201 to Fowler et al. ("Fowler"). The rejections are traversed for at least the following reasons.

As indicated above, independent claims 29 and 44 have both been amended to include subject matter that has been deemed allowable by the Examiner in the Office Action. Since none of the cited references either alone or in combination teach a tapered end formed by gradually eliminating warp yarns or fibers in a sequential manner or by drawing in the warp yarns or fibers during weaving, claims 29 and 44 patentably distinguish over the cited art and are allowable.

Furthermore, it is contended that the Shimozono and the Fowler references are nonanalogous art to the present invention and Hawthorne, and therefore cannot be properly applied to reject Applicants' claims. Applicants' invention is directed to large fabric Flexible Fluid Containment Vessels for the ocean transportation of cargo including fresh water as well as other fluids having a density less than that of salt water. Page 6, lines 4-8. In the instant invention, the Flexible Fluid Containment Vessels can have a length of 300 feet or more and a diameter of 40 feet or more. Page 6, lines 19-23. Hawthorne is directed to tubular shaped vessels, the size of which are similar to that of barges, for transporting or storing liquids or fluidisable solids. *See* col. 1, lines 11-19. In Hawthorne, the length of the vessel is greater than

20 times its beam. Col. 1, lines 26-27. Therefore, Hawthorne is directed towards large floating structures for ocean transportation.

In contrast, Shimozono is directed to foldable water tanks. In general, the diameter of the water tanks is from 1 to 10 meters and the height is from 0.5 to 2.0 meters. Col. 2, line 65 to col. 3, line 2. Finally, Fowler is directed to a tubular shaped fluid-dispensing container. Col. 2, lines 57-58. When the structure of Fowler is formed into a tubular shape of radial expansibility, the relaxed circumference of the tubular shape is preferably from 1.5 to 12.0 cm. The relaxed length of the tubular shape will generally be from 8.9 to 19.0 cm. When the tubular shape of Fowler is of longitudinal expansibility, the relaxed circumference is preferably from 4.0 to 36.0 cm and the relaxed length is preferably from 1.0 to 9.4 cm. Col. 12, lines 22-33.

It is well established that nonanalogous art cannot be considered pertinent prior art under 35 U.S.C. § 103 and therefore cannot be relied upon as a "'basis for rejection of an applicant's invention'." See M.P.E.P. § 2141.01(a) (quoting *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992)). The determination as to whether a reference is analogous art is two fold. First, it must be decided if the reference is within the field of the inventor's endeavor. If it is not, it must then be determined whether the reference is "reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d at 1446. The Federal Circuit has held:

A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem.

In re Clay, 966 F.2d 656, 659 (Fed. Cir. 1992).

In the present case, the Shimozono and the Fowler references do not satisfy the above well established test of a reference falling into the category of analogous art. First, Shimozono and Fowler are not within the field of the instant inventors' endeavor. As previously discussed, the instant invention relates to very large Flexible Fluid Containment Vessels used to transport liquids and Hawthorne relates to large tubular shaped vessels for the transport of liquids . By contrast, Shimozono relates small, portable water tanks and Fowler relates to small tubular shaped fluid dispensing containers. Further evidencing the different fields of invention between the instant invention and Hawthorne and the Shimozono and Fowler references are the USPTO classifications of the references. *See* M.P.E.P. § 2141.01(a). In the Office Communication dated September 16, 2002 for the parent application (application serial No. 09/921,617), detailing the restriction requirement, claims 29-36 were classified in class 114. This classification is also confirmed under the Application Data tab on the PAIR system for the instant application. Hawthorne is also classified in class 114. In contrast, Shimozono is classified in classes 220, 383 and 4 and Fowler is classified in classes 139, 57, 66, 150 and 428. The classes are defined as follows:

Class 114 (Applicant's invention and Hawthorne): Ships

Class 383 (Shimozono): Flexible Bags

Class 220 (Shimozono): Receptacles

Class 4 (Shimozono): Baths, Closets, Sinks and Spittoons

Class 139 (Fowler): Textiles: Weaving

Class 57 (Fowler): Textiles: Spinning, Twisting and Twining

Class 66 (Fowler): Textiles: Knitting

Class 150 (Fowler): Purses, Wallets and Protective Covers

Class 428 (Fowler): Stock Material or Miscellaneous Articles

Accordingly, Shimozono and Fowler are neither within the field of the instant inventors' endeavors, nor is it within the field of the Hawthorne reference applied in combination.

Secondly, Shimozono and Fowler are not reasonably pertinent to the particular problem with which the instant inventors were involved, thus failing the second prong of the test. As previously stated, Shimozono deals with portable water tanks and Fowler deals with small tubular shaped fluid dispensing containers. On the other hand, the instant invention is directed to the problems associated with ocean transportation of liquids using very large Flexible Fluid Containment Vessels. It is clear that the matters with which Shimozono and Fowler deal would not logically have commended itself to the instant inventors' attention in considering the problem solved by the instant invention.

Therefore, as Shimozono and Fowler fail both prongs of the analogous art test, Shimozono and Fowler are nonanalogous art to the instant invention and cannot be properly applied in an obviousness analysis.

Moreover, while the USPTO classification is some evidence of analogy, similarities and differences in structure and function carry more weight. *In re Ellis*, 476 F.2d 1370, 1372 (C.C.P.A. 1973). As previously discussed, the Applicants' invention is directed to the transportation of large Flexible Fluid Containment Vessels for ocean transportation of fluids. In contrast, neither Shimozono nor Fowler perform a function similar to ocean transportation of fluids. Instead Shimozono is directed to foldable portable water tanks for use on land and Fowler is directed to fabric fluid dispensing container. Both structures are extremely small in relation to the instant invention. Additionally, neither structure is designed to be towed through the oceans and therefore their structures are different from the instant invention as well. One

example is that the foldable water tank of Shimozono is not a closed structure. As depicted in Figure 4, the water tank has an open top. In contrast, the structure of the Applicants' invention is completely enclosed. Therefore, liquid contained within the instant invention is completely enclosed within the structure and is protected from the surrounding environment. Hence, the differences in structure and function of the cited references are further evidence of nonanalogous between Applicants' invention and Shimozono and Fowler.

For at least the foregoing reasons, it is respectfully submitted that Shimozono and Fowler are nonanalogous to the Applicants' invention and therefore should not have been relied upon as a basis for rejection of the Applicants' invention. Therefore, reconsideration and withdrawal of the § 103(a) rejections are respectfully requested.

Statements appearing above with respect to the disclosures in the cited references represent the present opinions of the Applicant's undersigned attorney and, in the event that the Examiner disagrees with any such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the respective reference providing the basis for a contrary view.

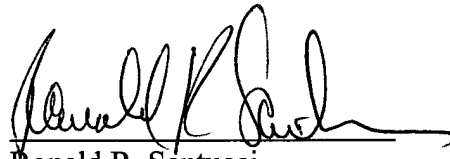
CONCLUSION

In view of the foregoing, it is believed that all of the claims in this application are patentable over the prior art, and an early and favorable consideration thereof is solicited.

Please charge any fees incurred by reason of this response and not paid herewith to
Deposit Account No. 50-0320.

Respectfully submitted,
FROMMER LAWRENCE & HAUG LLP

By:

A handwritten signature in black ink, appearing to read 'Ronald R. Santucci', written over a horizontal line.

Ronald R. Santucci
Reg. No. 28,988
(212) 588-0800